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[54] **HYDRAULIC SERVOMECHANISM FOR CONTROLLING THE PRESSURE OF WRITING FLUID IN AN INK JET PRINTING SYSTEM**

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[52] **U.S. Cl.** ..... **346/140 R**; 222/55; 417/45; 417/472

[58] **Field of Search** 346/140; 417/472, 18, 417/19, 44, 45; 222/55, 56

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[57] **ABSTRACT**

A hydraulic servomechanism for controlling the pressure of ink supplied to an ink jet printer head includes a bellows located between an ink source and the head and arranged for expansion and contraction to decrease and increase the pressure of ink in the bellows.

Pressure is sensed at the bellows output connected to the ink head and the sensed pressure is compared to a desired ink pressure to produce a driving signal which excites an electromagnetic driver coupled to the bellows. The driver applies a force to the bellows to adjust the pressure to the desired pressure. A position sensing switch is responsive to the volume of the bellows and controls a valve located between an ink source and the bellows input to maintain the volume of ink in the bellows within a predetermined volumetric range.

5 Claims, 2 Drawing Figures